

## SSLC MODEL EXAMINATION—FEBRUARY, 2013

## BIOLOGY

Time : 1½ hrs.

Total Score : 40

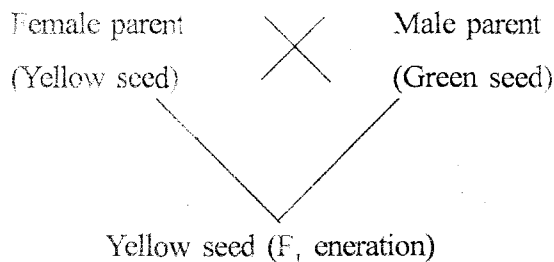
## Instructions:

- First 15 minutes are allowed as 'Cool off time'. During this period, read and comprehend the questions well.
- Answer all questions.
- For choice questions, only one of them need to be answered.
- Write all sub questions of the choice you selected.
- Score of each question is given against them.

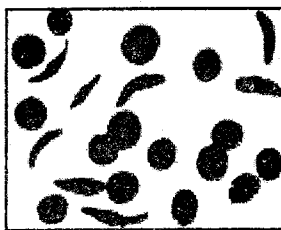
- |   | Score |
|---|-------|
| 1. Find the odd one, note down common features of others:   | [2]   |
| (a) Axon, Nephron, Dendron, Dendrite  |       |
| (b) Ethylene, Cytokinins, Ethyphon, Gibberlins  |       |
| 2. Find out 'word pair relation' and fill up the blanks :   | [3]   |
| (a) Tuberculosis—BCG<br>Polio—.....   |       |
| (b) Hyperimmunity—Allergy<br>.....—Rheumatic fever  |       |
| (c) Photopsin—Colour blindness<br>.....—Night blindness   |       |
| 3. Explanations of Lamarck's theory given by Sheela is listed below. Which explanation among them is wrong? | [1]   |
| (a) Pressure of living conditions leads to use or disuse of organs.   |       |
| (b) Use and disuse of organs cause changes in their structure.  |       |
| (c) Variations acquired by an organism during its lifetime is transmitted to the next generation.           |       |
| (d) Competition between organisms for the limited resources is struggle for existence.                      |       |

[P.T.O.]

4. 'Gopalattan' decided to develop new items of Pea plants in his vegetable garden. [2]  
The result of the experiment conducted by him is given below. Analyse it and answer the following questions.



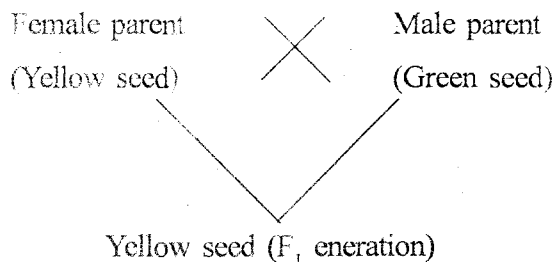
- (a) In  $F_1$  generation only yellow seeded pea plants are produced. Why?
- (b) Name the type of seed of pea plant produced when plants of  $F_1$  generation are subjected to self pollination. In which ratio?
5. In the blood test of a patient, red blood cells appear to be as follows, if so, [2]



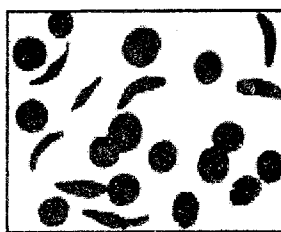
Red Blood Cells

- (a) Identify the affected disease.
- (b) What is the reason for the disease?
- (c) Write a symptom of this disease.
- (d) How does the disease mainly affect our body?
6. Manu rubbed strongly across the path of a row of moving ants. Immediately all the ants moved in different directions. [2]
- (a) Which is the substance responsible for this?
- (b) Write another function of this substance.
7. Radha is moving away with fear from a snake. [3]
- (a) State what happens to the functioning of following organs:
- (i) Heart
  - (ii) Pupil
  - (iii) Trachea
  - (iv) Liver
- (b) Which nervous system is activated during such emergency situations?

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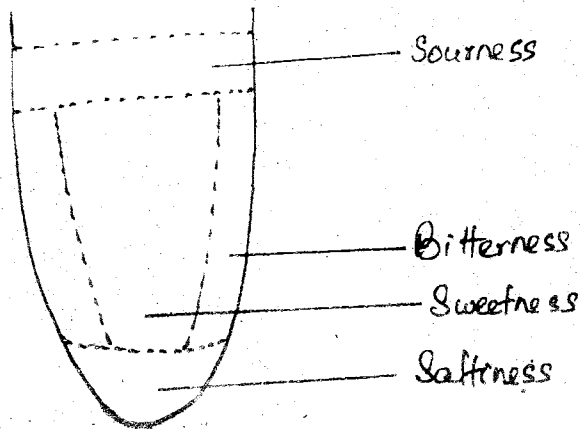
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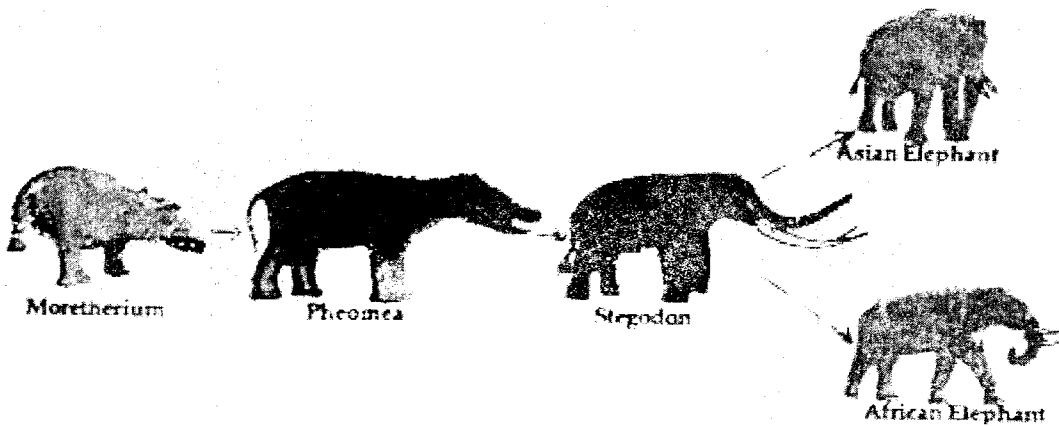
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8. The figure below shows the taste buds of the human tongue labelled wrongly. [2]  
Redraw the figure and rewrite them correctly.

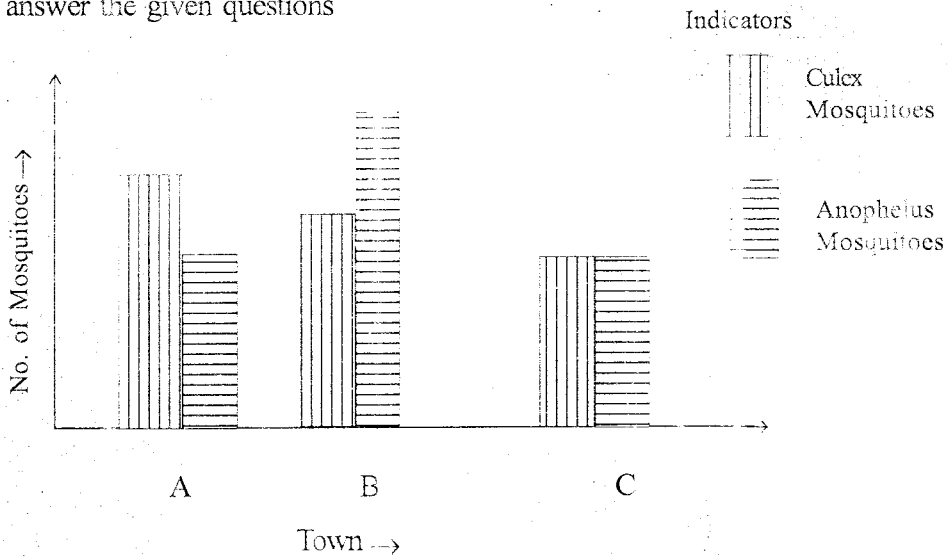


9. Constant use of antibiotics is not good for health. This is the opinion of Raheem. [3]  
(a) Do you agree with this opinion? Why?  
(b) Give two specific examples for justifying your answer.
10. Prepare a flow chart showing the path of sound waves passing through the ear starting from ear drum to organ of corti. [3]
11. Observe the illustration of evolutionary history of the elephant. [2]



- Write any two dominant physical features which distinguish Stegodon from Moretherium.

12. Observe carefully the graph, illustrating the data of a survey conducted in certain towns by the Health Department of Kerala. Analyse the graph and answer the given questions [2]



- (a) Which type of mosquito dominates in town A?
- (b) Identify the disease which is likely to be spread in town B. Name the pathogen which causes the disease.
- (c) Write an important symptom of this disease.

13. Seeing the innumerable tadpoles in a pond, Mary was anxious about the state of the pond when the tadpoles grew. What explanation can you give Mary to remove her anxiety on the basis of Darwin's theory of natural selection? [2]

14. Symptoms of Thyroxine related diseases are given below in column A [4]  
 (a) Write in column B the corresponding disease and in column C the reason for the disease complete the table.

A	B	C
Symptom	Disease	Reason
(i) Retards mental and physical growth in children	(1) .....	(x) .....
(ii) Swollen neck	(2) .....	(y) .....
(iii) Mental abnormalities, Eyes protrude out	(3) .....	(z) .....

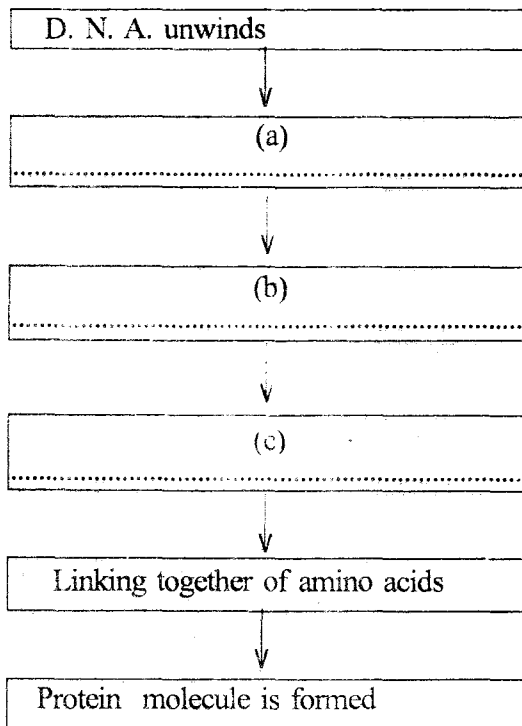
(b) Write remedy that can be taken for any two of the diseases.

Given below is an incomplete table showing reproduction related body changes controlling hormones, their glands and functions. Fill in the missing gaps.

Hormone	Gland	Function
Progesterone	(a) .....	Helps in pregnancy maintenance of the embryo
(b) .....	Ovary	Growth of sex organs, production of ovum.
Testosterone	(c) .....	(d) .....
Prolactin	(e) .....	(f) .....
(g) .....	(h) .....	Helps in facilitating child birth

15. Complete the flow chart showing gene action:

[3]



16. Observe the diagram and identify. Redraw it and name the parts which perform following functions and label: [4]

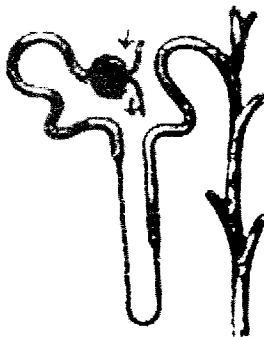


Diagram.....(a).....

- (b) Part where reabsorption of essential substances take place.
- (c) Part which carries urine to pelvis.
- (d) Part where ultrafiltration takes place.
- (e) Part which carries blood to Bowman's capsule.
- (f) Part which carries blood from the Bowman's capsule to outside.